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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/569,542

02/23/2006

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EXAMINER

COLEMAN, KEITH A

ART UNIT

PAPER NUMBER

4175

NOTIFICATION DATE

DELIVERY MODE

01/14/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@youngbasile.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/569,542	<b>Applicant(s)</b> GRIESBACH ET AL.	
	<b>Examiner</b> Keith A. Coleman	<b>Art Unit</b> 4175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 does not depend on any other claims. Appropriate correction is required. To further prosecution, claim 3 is interpreted to be dependent on claim 1.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over lida et al. (US Patent No. 6,655,026) in view of Hayden, Sr. (US Patent No. 4,258,084).

7. With regards to claims 1, 7, and 8, lida et al. discloses a connecting rod and generally any inner surfaces of a bearing into which a piston pin and a crankpin fit are strengthened by shot-peening the surfaces (Col. 1, Lines 6-11). It is deemed that since lida is concerned with the inner surfaces of bearings into which a piston pin would connect that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the inner surfaces of the piston head pinhole of lida et al. with indentations as well to strengthen the surfaces. However, lida et al. does not disclose the shot peening indentations as being circular. Hayden discloses surfaces (11) shot peened so as to create crater-shaped circular indentations (20) and to provide the movable surfaces with good lubricant retention (Col. 2, Lines 5-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention made to have made the shot peened indentations of lida et al. circular so as to provide a piston head pinhole with a stronger inner pinhole surface with good lubricant retention.

Both patents are analogous art because they both disclose methods of improving surfaces of engine components.

With regards to the limitation of introducing indentations at room temperature (i.e. cold-working), because the purpose of shot-peening is to create residual stresses on a metal surface and is convenient to perform at room-temperature and Iida explicitly states, "The quenching depth according to the carburizing and quenching processing, that is, the depth to which the compressive residual stress is formed, varies according to the condition of the carburizing and quenching processing (temperature, carbon concentration, processing time, etc.)" (Col. 2, Lines 14-19), it would have been obvious to one having ordinary skill in the art at the time the invention was made to know that cold-hardening processes such as shot peening can be performed at room temperature.

With regards to claims 3 and 5, Hayden discloses wherein the indentations can be introduced into a surface by a blasting medium which has definite grain (Col. 2, Lines 15-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the shot peened indentations of Iida et al. to have a definite grain so as to provide a large number of depressions as taught by Hayden.

With regards to claim 4, both Iida et al. and Hayden disclose a blasting medium which is a shot-peening medium (Col. 2, Lines 14-27 from Iida et al., Abstract from Hayden). It should be noted that "peened from glass spheres" as cited in Hayden is interpreted as shot-peening.

With regards to claim 6, Hayden discloses shot penning the pin hole surfaces with the blasting medium at a velocity so that the blasting medium creates the indentations upon impact without penetrating the material of the pin hole surfaces (Col. 2, Lines 6-13, Figures 1-2).

### ***Response to Arguments***

8. Applicant's arguments filed 11/5/2007 have been fully considered but they are not persuasive.

9. Applicant argues that the Examiner used hindsight and personal conjecture in making the 35 USC 103 (a) rejection using Iida et al. (US Patent No. 6,655,026) in view of Hayden, Sr. (US Patent No. 4,258,084) and requests evidence based on the Examiner's personal knowledge/conjecture.

10. In applying the prior art, Iida et al. explicitly state that shot peening is dependent on temperature and processing time (Col. 2, Lines 14-19). In addition, Hayden and Iida are analogous art because the patents both disclose methods of improving surfaces of engine components.

11. To remedy the notion that Examiner used hindsight and personal conjecture, an additional document titled "Shot-Peening Overview", containing shot-peening industry standards and experiments done at room-temperature dating from January 18, 2001, has been provided. This document provides specific factual findings predicated on sound technical and scientific reasoning to support Examiner's conclusion of common

knowledge of one of ordinary skill in the art. The germane pages are 22 (See Figure 26) and 34 (First Paragraph). It should be noted that on Page 34 on Lines 5-6, Champaigne explicitly states, "Peen forming is accomplished at room temperature."

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH A. COLEMAN whose telephone number is (571)270-3516. The examiner can normally be reached on Monday through Friday between 5:30-3 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrence Till can be reached on (571) 272-1280. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4175

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Terrence R Till/  
Supervisory Patent Examiner, Art Unit 4175

KAC  
/K. A. C./  
Examiner, Art Unit 4175